

Abstract of the Disclosur

5 A pyrolysis heater particularly for the cracking of hydrocarbons in the production of olefins has a burner arrangement in the firebox which includes staged combustion low NO_x hearth burners firing upwardly in the firebox adjacent to the walls. Wall stabilizing gas fuel injection tips, located at an elevation above the hearth burners, inject fuel upwardly between the walls and the flame from the hearth burners. This prevents rollover of the flame onto the process heater coil and overheating of the coil.